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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,199	03/29/2004	Jiewen Liu	80107.162US1	1386

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Minneapolis, MN 55402

EXAMINER
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GELIN, JEAN ALLAND

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/812,199

Applicant(s)

LIU ET AL.

Examiner

Jean A. Gelin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, and 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsien et al. (US 2005/0128970).

Regarding to claim 1, Tsien teaches a method comprising periodically adjusting an access point output power in a wireless network to reduce potential interference while communicating with associated mobile stations (i.e., transmit power procedure is performed by the AP which dynamically adjust its transmit power level at regular interval for communications with one or more communication stations [0027]-[0030] and [0038]-[0040]).

Regarding to claim 2, Tsien teaches wherein periodically adjusting an access point output power comprises determining a path loss for each associated mobile station (i.e., adjusting the transmit power at regular interval based on the path loss, [0035]-[0040]).

Regarding to claim 3, Tsien teaches adjusting the access point output power when a mobile station associates (i.e., AP adjusts power when received report from the communication terminal [0027]-[0028] and [0038]-[0039]).

Regarding to claim 4, Tsien teaches adjusting the access point output

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power when the mobile station disassociates (i.e., typically when the communication device does not contact the AP, no transmit power adjustment is performed).

Regarding to claim 5, Tsien teaches transmitting beacons at a full access point output power (i.e., within the dynamic power adjustment to reduce error or interference [0027] and [0038]-[0039]).

Regarding to claim 6, Tsien teaches a method comprising: transmitting a beacon frame (e.g., a command) in a wireless network (i.e., communicating packet, and reporting information to access point [0011] [0023], furthermore beacon frames are transmitted by the AP at regular intervals in the WLAN to inform the terminal about the presence of the AP); receiving a signal from a mobile station (i.e., reporting information to access point [0023]); and adjusting an access point output power to reliably communicate with the mobile station (i.e., in response the AP adjusts power based on report [0023] and [0038]-[0040]).

Regarding to claim 9, Tsien teaches all the limitation above except wherein adjusting an access point output power comprises calculating a first path loss to the mobile station ([0021]-[0023]).

Regarding to claim 10, Tsien teaches wherein adjusting an access point output power further comprises setting the output power to overcome the path loss ([0021]-[0023]).

Regarding to claim 11, Tsien teaches comprising receiving a signal from a second mobile station (fig. 1).

Regarding to claim 12, Tsien teaches comprising calculating a second path loss

to the second mobile station ([0027]-[0039]).

Regarding to claim 13, Tsien teaches adjusting the output power to overcome a greater of the first path loss and the second path loss (i.e., within dynamic adjustment of transmit power when performance of signal quality degrades ([0027]-[0036])).

3. Claims 14-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsien et al. (US 2005/0128970).

Regarding claims 14, 20, Choi teaches a method comprising: transmitting a beacon frame from an access point at a full power level (col. 6, lines 22-47); and transmitting frames other than beacon frames from the access point at less than the full power level (col. 4, lines 1-60 and col. 5, lines 21-47).

Regarding claims 15, 21, Choi teaches wherein transmitting frames other than beacon frames comprises transmitting at a power level high enough to overcome a path loss to an associated mobile station (col. 3, lines 19-33, col. 4, lines 1-25), and col. 5, lines 22-47).

Regarding claims 16, 22, Choi teaches adjusting the power level when the associated mobile station disassociates (i.e., adjusting transmission rate at just the right power level, col. 3, lines 19-26).

Regarding claims 17, 23, Choi teaches adjusting the power level when another mobile station associates (i.e., adjusting transmission rate at just the right power level, col. 3, lines 19-26).

Regarding claim 18, Choi teaches periodically readjusting the power level (col. 4, lines 2-25).

Regarding claim 19, Choi teaches wherein periodically adjusting the power level comprises determining a path loss to an associated mobile station (col. 3, line 64 to col. 4, line 25).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsien (US 2005/0128970) in view of Choi et al. (US 6,978,151).

Regarding claim 7, Tsien teaches all the limitation above except adjusting an access point output power comprises reducing the output power of frames other than beacon frames.

However, the preceding limitation is known in the art of communications. It is also known in the art of communications that beacon frames are periodically transmitted by the access point (AP) of a WLAN to inform the WLAN terminal of the presence of AP (corresponding to each time beacon frames are transmitted the power consumption of the AP is increased because beacon frames are transmitted at higher power than other frame). Choi teaches the transmission power should no exceed the maximum transmission power specified by the AP through a beacon frame (col. 3, line 64 to col. 4, line 45 and col. 5, lines 22-47). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to implement the technique of Choi within the

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system of Tsien in order to have a system that estimates path loss by a communication receiver to determine accurate transmission power control or to adjust transmission rate in WLAN.

Regarding to claim 8, Tsien in view of Choi teaches all the limitation above. Choi further teaches wherein adjusting an access point output power further comprises transmitting beacon frames at a maximum power (col. 5, lines 35-47).

6. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over in Choi et al. (US 6,978,151) view of Tsien (US 2005/0128970)

Regarding claim 24, Choi teaches electronic system comprising: an antenna (col. 3, lines 46-47); a variable output power radio interface coupled to the antenna (i.e., adjusting the transmitting power level (col. 2, lines 4-44); a processing apparatus (control processor 20) coupled to the variable output power radio interface to periodically adjust an output power to reduce potential interference while communicating with associated mobile stations (col. 3, lines 46 to col. 4, line 25).

Choi does not specifically teach an Ethernet interface coupled to the processing apparatus.

However, the preceding limitation is known in the art of communications. Tsien teaches the access point (AP) of a WLAN is coupled with one or more networks, such as an intranet or Internet which inherently include the function of Ethernet, allowing communications stations to access such networks ([0010]). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to implement

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the technique of Tsien within the system of Choi in order to connect a plurality of communication terminals within the same building or campus in a WLAN, and increase user's mobility.

Regarding claim 25, Choi in view of Tsien teaches all the limitations above. Choi further teaches transmitting a beacon frame from an access point at a full power level (col. 6, lines 22-47); and transmitting frames other than beacon frames from the access point at less than the full power level (col. 4, lines 1-60 and col. 5, lines 21-47).

Regarding claim 26, Choi in view of Tsien teaches all the limitations above. Choi further teaches wherein transmitting frames other than beacon frames comprises transmitting at a power level high enough to overcome a path loss to an associated mobile station (col. 3, lines 19-33, col. 4, lines 1-25), and col. 5, lines 22-47).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Filton et al.	US 2004/0229563	11/18/2004
Adachi et al.	US 6,947,768	09/20/2005
Chandra et al.	US 2005/0143119	06/30/2005
Pan et al.	US 2003/00453317	03/06/2003
Vallstrom et al.	US 2004/0223479	11/11/2004
Tain et al.	US 2004/00059007	01/08/2004



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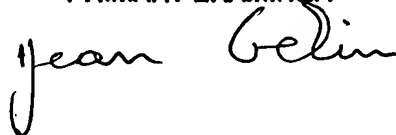
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A. Gelin whose telephone number is (571) 272-7842. The examiner can normally be reached on 9:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JGelin  
February 2, 2007

JEAN GELIN  
PRIMARY EXAMINER

A handwritten signature in cursive script that reads "Jean Gelin". The signature is written in dark ink and is positioned below the printed name and title.